

CLAIMS

What is claimed is:

1. An apparatus for displaying facial features comprising:

a nonplanar surface;

an image generation device that creates an image with facial features on the nonplanar surface; and

a positioning system that positions the image on the nonplanar surface to indicate a direction of gaze and enhance nonverbal communication associated with the facial features.
2. The apparatus of claim 1, wherein the nonplanar surface has substantially the shape of a head.
3. The apparatus of claim 2, wherein the substantially head shaped nonplanar surface is selected from a set of head shapes including: a sphere, a spheroid, or an oblong closed surface.
4. The apparatus of claim 1, wherein the nonplanar surface has substantially the shape of a face.
5. The apparatus of claim 4, wherein the substantially face shaped nonplanar surface is selected from a set of face shapes including: a portion of a sphere, an oblong open nonplanar surface, or an oblong nonplanar closed surface with one flat side.
6. The apparatus of claim 1, wherein the image generation device comprises one or more projection devices projecting light from outside the nonplanar surface.
7. The apparatus of claim 1, wherein the image generation device comprises one or more projection devices projecting light from within the nonplanar surface.
8. The apparatus of claim 1, wherein the image generation device comprises a flexible display substantially coincident with the nonplanar surface.

9. The apparatus of claim 8, wherein the image generation device is implemented using a flexible display technology selected from a set including: a flexible LCD display, a flexible organic light emitting diode display, a flexible inorganic electroluminescent display, and a flexible light-emitting polymer display.

10. The apparatus of claim 1, wherein the facial features being projected onto the nonplanar surface is created from a live transmission of images.

11. The apparatus of claim 1, wherein the facial features are selected from a set including those of: a fantasy face, a cartoon face, an animal face, and a human face.

12. The apparatus of claim 1, wherein the positioning system moves the image and eyes contained in the image from one part of the nonplanar surface to another in conjunction with movement of the facial features gathered with the image collection device.

13. The apparatus of claim 1, further comprising one or more video collection devices for collecting video images of facial features from a perspective substantially on or near the nonplanar surface.

14. The apparatus of claim 13, wherein the one or more video collection devices includes a camera device, and the perspective substantially on or near the nonplanar surface includes mounting the camera device substantially near a set of eyes appearing on the nonplanar surface.

15. The apparatus of claim 14, wherein the one or more video collection devices includes a camera device and the perspective substantially on or near the nonplanar surface includes mounting the camera device substantially at the location of one eye appearing on the nonplanar surface.

16. The apparatus of claim 14, wherein one or more video collection devices includes a camera device and the perspective substantially on or near the nonplanar surface includes mounting the camera device substantially at the location of each eye appearing on the nonplanar surface.

17. The apparatus of claim 1, further comprising a speaker to transmit voice and other sounds from the perspective of the nonplanar surface.

18. The apparatus of claim 17, wherein the speaker is located substantially at the location of a mouth associated with the facial features appearing on the nonplanar surface.

19. The apparatus of claim 1, further comprising one or more microphones to gather sounds audible from the perspective of the nonplanar surface.

20. The apparatus of claim 19, wherein each of the one or more microphones is located substantially at the location of an ear of the image appearing on the nonplanar surface.

21. A method for displaying facial features comprising:

generating an image with facial features on a nonplanar surface; and

positioning the image on the nonplanar surface to indicate a direction of gaze and enhance nonverbal communication associated with the facial features.

22. The method of claim 21, wherein the generating is done by a video projection device projecting from outside the nonplanar surface.

23. The method of claim 21, wherein the generating is done by a video projection device projecting from inside the nonplanar surface.

24. The method of claim 21, wherein the generating is done by a curved display substantially coincident with the nonplanar surface.

25. The method of claim 21, comprising the additional step of collecting one or more live video images from a perspective on or near the nonplanar surface.

26. The method of claim 25, further comprising the step of transmitting the live video images to a remote user.

27. The method of claim 25, wherein the collecting step comprises the collection of images from a perspective in the region of the eyes of the facial features on the nonplanar surface.

28. The method of claim 21, comprising the additional step of collecting one or more live audio feeds to gather sounds audible from the perspective of the nonplanar surface.

29. The method of claim 28, comprising the additional step of transmitting the live video feeds to a remote user.

30. An apparatus for displaying facial features comprising:

means for displaying an image on a nonplanar surface;

means for generating facial features in the image on the nonplanar surface; and

means for positioning the image to indicate a direction of gaze and enhance nonverbal communication associated with the facial features.